Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A digital mammography imaging method, in which ~~the~~ radiation that has passed through ~~the~~ an object is detected on at least one sensor, ~~which~~ the sensor contains containing one or more ~~preferably elongated~~ sensor modules, wherein ~~the~~ said sensor module contains one or more pixel columns which receive image data, in which method the object to be imaged is arranged essentially motionless and is scanned across with a beam which originates from a radiation source, the focus of ~~which~~ the radiation source being essentially motionless in space, the beam being limited to be narrower than the object to be imaged and adapted essentially to ~~the~~ an active surface of the sensor, and in which method the sensor is moved in synch with the scanning movement of the beam while at the same time the said active surface is kept essentially at right angles to the beam on a plane formed by the scanning movement of the beam, wherein movement of the sensor or sensors is implemented by continuously adjusting the distance of the sensor or sensors from the radiation source in « such a way that the ~~its~~their trajectory of the sensor or sensors in the direction of the scanning movement of the beam becomes essentially linear.

2. (Currently Amended) Imaging method according to claim 1, wherein the movement of the sensor or sensors is realized by one or more actuators, ~~which may be operated programmatically~~.

3. (Currently Amended) Imaging method according to claim 1, wherein at least a part of the movements of the sensor or sensors are realized by ~~mechanically~~ mechanically forced control.

4. (Currently Amended) Imaging method according to claim 1, wherein ~~the~~ said at least one sensor is moved in a such a way that ~~it~~ the sensor is connected to ~~the a~~ transmission element, which is moved along an essentially linear trajectory and the said connection is realized in such a way that ~~it~~ the connection enables mutual rotational movement of the transmission element and the sensor in the direction of said linear movement, whereby the said condition of perpendicular orientation of the sensor surface is realized by tilting the sensor or sensors with respect to the said transmission element.

5. (Currently Amended) Imaging method according to claim 1, wherein ~~the~~ said at least one sensor is arranged in functional connection with ~~such~~ a control element, ~~which~~ said control element enables altering the distance between the sensor and the control element in the direction of the beam, ~~the~~ said control element is moved along a curved trajectory and the distance between ~~the~~ said at least one sensor and the control element is ~~modified~~ modified during the scanning of the beam in such a way that the trajectory of the sensor becomes linear.

6. (Currently Amended) Imaging method according to claim 5, wherein ~~the~~ said control element is moved in a guide groove, the curvature of radius of ~~which~~ the guide groove corresponding to the distance between ~~the~~ said control element and the focus

of the radiation source, or ~~it~~ the control element is moved ~~otherwise~~ in some other way along a trajectory being at ~~the~~ said distance from the focus.

7. (Currently Amended) Imaging method according to claim 4, wherein ~~the~~ said transmission element or a control element is moved integrated with a pendulum arm, the ~~focus~~ centre of rotation of ~~which~~ said arm being situated on the level of the focus of the radiation source.

8. (Currently Amended) Imaging method according to claim 1, wherein the scanning movement of the beam is realized by moving a collimation element that limits the beam with the help of an actuator~~, which may be operated programmatically~~.

9. (Previously Presented) Imaging method according to claim 1, wherein a collimation element that limits the beam is moved essentially in parallel with the said linear movement of the sensor.

10. (Currently Amended) Imaging method according to claim 1, wherein the scanning movement of the beam is realized by moving ~~the~~ a collimation element which limits the beam along ~~the~~ a curved path, the curvature of radius of which corresponding to the distance between the said collimator and the focus of the radiation source.

11. (Currently Amended) Imaging method according to claim 9, wherein the radiation source is ~~swivelled~~ swiveled and the scanning movement of the beam is realized by moving ~~the~~ said collimation element in mechanical contact with the ~~swivelling~~ swiveling movement of the radiation source.

12. (Currently Amended) Imaging method according to claim 9, wherein the movement of the collimation element and the linear movement of the sensor or sensors are synchronized mechanically~~, such as by connecting them to the same pendulum arm, the focus of rotation of which being situated at the level of the focus of the radiation source~~.

13. (Currently Amended) Imaging method according to claim 12, wherein the movement of the collimation element and the sensor or sensors in the direction of the scanning movement of the beam is synchronized by connecting them mechanically to ~~the a swivelling~~ swiveling movement of the radiation source.

14. (Currently Amended) Imaging method according to one claim 1, wherein the sensor or sensors are arranged to be formed, in the direction at right angles to the plane formed by the scanning movement, of at least one sensor column containing two or more modules and the active surface of each of the modules is also positioned at right angles in relation to ~~this~~ said direction with respect to the focus of the beam.

15. (Currently Amended) Imaging method according to claim 1, wherein ~~the~~ said essentially linear movement of the sensor/sensors is realized under ~~the~~ an essentially plane-like lower compression paddle structure, in ~~its~~ close proximity to said paddle structure.

16. (Currently Amended) Digital mammography imaging apparatus, which includes

- a radiation source ~~(11)~~,

- a sensor arrangement (15) for detecting radiation, which arrangement contains one or more sensors (50) formed of one or more preferably elongated sensor modules (510, 510', ...), which sensor module (510, 510', ...) contains one or more pixel columns which receive image data,
- means (16, 17) for positioning the object to be imaged, located within the area between the radiation source (13) and the sensor arrangement (15),
- means for limiting the beam (19) from the radiation source (13) essentially according to the an active sensor surface of the said sensor arrangement (15),
- means for moving the beam across the object being positioned to be imaged and
- means for moving the said at least one sensor (50) which belongs to the sensor arrangement (15) in synch with the scanning movement of the said beam and keeping the said active sensor surface essentially at right angles to the beam on a plane formed by the scanning movement,

wherein the imaging apparatus (1) includes means for adjusting the distance of the said sensor (50) or sensors from the radiation source (13) in such a way that the trajectory of the sensor (50) or sensors in the direction of the scanning movement of the beam becomes essentially linear.

17. (Currently Amended) Imaging apparatus according to claim 16, wherein it the apparatus includes at least one actuator (20), which may be operated programmatically, for implementing the movement of the sensor (50) or sensors.

18. (Currently Amended) Imaging apparatus according to claim 16, wherein it the apparatus includes means for implementing at least a part of the movements of the sensor (50) or sensors by mechanically forced control.

19. (Currently Amended) Imaging apparatus according to claim 16, wherein ~~it~~ the apparatus includes means for linearly moving the sensor (50) or sensors and means for tilting the sensor (50) or sensors by a ~~mechanically~~ mechanically forced control along with the linear movement.

20. (Currently Amended) Imaging apparatus according to claim 16, wherein ~~it~~ the apparatus includes a transmission element (28, 40) arranged to be connected to the sensor (50) or sensors and means for linearly moving the transmission element and for tilting the sensor (50) or sensors in relation with the said transmission element (28, 40) in the direction of the said linear movement.

21. (Currently Amended) Imaging apparatus according to claim 16, wherein ~~it~~ the apparatus includes a control element (29) arranged to be moved along a curved trajectory in the direction of the scanning movement of the beam, which control element is arranged in a functional connection with ~~the~~ said at least one sensor (50) in such a way that their mutual distance in the direction of the beam is adjustable.

22. (Currently Amended) Imaging apparatus according to claim 21, wherein in order to form ~~the~~ said curved trajectory, the apparatus includes a guide groove (34), the radius of curvature of ~~which~~ said groove corresponding the distance between ~~it~~ the groove and the focus (42) of the radiation source (13), or ~~other~~ the apparatus includes some ~~other kind of~~ means for moving the control element (29) along a trajectory having such a radius of curvature.

23. (Currently Amended) Imaging apparatus according to claim 22, wherein ~~it~~ the apparatus includes a pendulum arm ~~(35)~~, the center of rotation ~~focus~~ of ~~which~~ said arm being arranged on the level of the focus ~~(42)~~ of the radiation source ~~(13)~~, whereby ~~the said either a~~ transmission element ~~(28, 40)~~ arranged to the apparatus ~~and/~~or said control element ~~(29, 32)~~, or both them, is attached to the pendulum arm ~~(35)~~ in such a way that the sensor ~~(50)~~ or sensors ~~may~~ can move in the direction of the longitudinal axis of the pendulum arm ~~(35)~~, or the pendulum arm ~~(35)~~ itself has been arranged to be adjusted by its length.

24. (Currently Amended) Imaging apparatus according to claim 16, wherein the imaging apparatus includes means ~~(20, 21, 22, 23)~~ for moving ~~the a~~ collimator element ~~(19)~~ that limits the beam essentially in parallel with the said linear movement of the sensor.

25. (Currently Amended) Imaging apparatus according to claim 16, wherein the apparatus includes means for moving ~~the a~~ collimator element ~~(19)~~ that limits the beam along a curved path, the radius of curvature of which corresponding to the distance between ~~it~~ the collimator element and the focus ~~(42)~~ of the radiation source ~~(13)~~.

26. (Currently Amended) Imaging apparatus according to claim 18, wherein, concerning means for moving the collimator element ~~(19)~~ and the sensor or sensors ~~(50)~~, respectfully, at least ~~the other are either~~ one of them is arranged in mechanical contact ~~with in the~~ said pendulum arm ~~(35)~~.

27. (Currently Amended) Imaging apparatus according to claim 26, wherein the collimator element ~~(49)~~, the sensor ~~(50)~~ or sensors and the radiation source ~~(42)~~ are arranged in mechanical contact with the said pendulum arm ~~(35)~~ in such a way that the said synchronization of the scanning movement of the beam and the movement of the sensor ~~(50)~~ or sensors takes place in a forced manner while the said pendulum arm ~~(35)~~ is moved by an actuator.

28. (Currently Amended) Imaging apparatus according to claim 17, wherein ~~it~~ the apparatus includes actuators ~~(20, 34), which may be operated programmatically,~~ for realizing all the movements of the sensor or sensors ~~(50)~~ and the ~~collimator elements~~means for limiting the beam.

29. (Currently Amended) Imaging apparatus according to claim 16, wherein the sensor or sensors ~~(50)~~ are arranged to be formed, in the direction at right angles to the plane formed by the scanning movement, of at least one sensor column which contains two or more modules ~~(510, 510', ...)~~, and the active surface of each module ~~(510, 510', ...)~~ is positioned also in ~~this~~ said direction at right angles to the focus ~~(42)~~ of the beam.

30. (Currently Amended) Imaging apparatus according to claim 16, wherein said means for positioning the object to be imaged contain two radiolucent compression paddles ~~(16, 17)~~ or equivalent, said paddles or equivalent having essentially plane like surfaces.